

Date: Wed, 16 Feb 94 04:30:16 PST  
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>  
Errors-To: Ham-Digital-Errors@UCSD.Edu  
Reply-To: Ham-Digital@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Digital Digest V94 #39  
To: Ham-Digital

Ham-Digital Digest                      Wed, 16 Feb 94                      Volume 94 : Issue    39

Today's Topics:

    Amiga & Baycom : where to find the program !  
        Digital radio ?  
    HAMBLASTER INCORRECT STATEMENTS (2 msgs)  
        Kaypro terminal emulator  
        Mocom 35 for 9600  
        My HAMBLASTER note  
        PktWin V2.0 Bug (Oops)  
        Pro- 2006 Modifications  
        SB-Pro-16 and DTMF codes  
        Yaesu Ft-470 Rx Range?  
        Yaesu FT-5100 / MFJ-1270B

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>  
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Tue, 15 Feb 1994 11:40:53 GMT  
From: gulfaero.com!vixen.cso.uiuc.edu!howland.reston.ans.net!pipex!  
zaphod.crihan.fr!jussieu.fr!univ-lyon1.fr!swidir.switch.ch!news.unige.ch!ugun2a!  
pfund@network.ucsd.edu  
Subject: Amiga & Baycom : where to find the program !  
To: ham-digital@ucsd.edu

Sorry people.....

I just forgot to mention: Amicom 2.0 is on Aminet...

The best sites for Amiga programs....

it's in the aminet/misc/sci directory

73s de Daniel

--

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    /// Daniel Pfund                      Internet: pfund@uni2a.unige.ch
  _/// University of Geneva, Economics    AX25: hb9vbc@hb9iap.srom.ch.eu
\\//  only AMIGA makes it possible !      ham radio amateur

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Date: 12 Feb 1994 17:08:02 GMT  
From: hearst.acc.Virginia.EDU!portal.gmu.edu!fame!smasters@uunet.uu.net  
Subject: Digital radio ?  
To: ham-digital@ucsd.edu

Johnny Lin (jlin@kaiwan.com) wrote:

: I am a newbie in amature radio, but like to know if there is rig that can  
: do following functions and features.

- : 1. Digital selective calling.
- : 2. Signal encryption, so only A and B can chat, no one else can listen to.

While this would be a nice feature, and just about require digital transmission, it is illegal to encrypt amateur traffic. While this may change in the future, it is one of those hard and strict rules that is here today(ie. This isn't like ordering pizza over an autopatch). You would be better off with Spread Spectrum, since it is legal, and no one would (probably) even know you were there.

Good Luck,

Shawn KE4GHS  
President GMU Ham radio club

: --

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: +-----+
: |Johnny C. Lin          P.O.Box 536          Tel:310-9263682      |
: |                      Artesia, CA 90702      Fax:310-9269526      |
: |                      U.S.A.                  |

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Shawn C. Masters  
smasters@gmu.edu

I speak for myself, not my department or institution.

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Date: 9 Feb 94 14:10:54  
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net  
Subject: HAMBLASTER INCORRECT STATEMENTS  
To: ham-digital@ucsd.edu

Howdy:

In a recent spate of messages, we have been told of the capabilities of the hamblaster. It sounds rudimentary so far but I am sure that over time the capabilities (new software development) will proceed and its capabilities will be enhanced and it will make a very interesting tool for amateur radio communications, experimentation, and learning DSP. There will be alternatives as you will now be told.

In other messages, John Alberts has told us of the lack of capabilities of the Sound Blaster 16 with ASP. He is WRONG. I received my Sound Blaster developers kit via UPS yesterday at last. It is easy to see how John could have made the mistake he made. The manuals received in the kit describe two distinct pieces of processing hardware. One is called the DSP and the other is the ASP. The DSP has all the limitations mentioned by John in his statements concerning the capabilities of the Sound Blaster card (or lack thereof). It is a proprietary gate array surrounding masks from other chip developers to do stuff like DMA blocks of samples in and out, to convert PCM to u-LAW, 2 or 4 bit ADPCM, CVSD, etc. It directs the flow of MIDI commands, etc. It is a pretty neat thing in and of itself but it is NOT what we want. We want a full blown DSP chip, with a modified Harvard architecture and at least 16 by 16 bit -> 32 multiply, accumulate, read new coefficient and data in one instruction time. THE ASP is a real DSP chip and has all this. It is 512 words of off chip program memory, 512 words of off chip data ram, 192 words of X RAM on chip, 128 words of Y ram on chip. X ram is program and sample data, Y RAM would be used for filter coefficients. THIS IS A FULL BLOWN DSP CHIP. It does NOT have the limitations John has told us the hamblaster overcomes. Indeed, on the A/D, D/A front, it is quite clear that the under \$300 SB16-ASP is quite a bit MORE CAPABLE than hamblaster. It has two channels (16 bits each), D/A, and A/D. The sample rate is completely controllable by uploading a divisor to the control register. The lowest available rate is 5 Khz and the highest is 44.1 Khz. The processor runs at 12 MIPS so filters would execute at around 25 MIPS. This is because it has the typical

DSP feature of multiply two numbers, read the next two, and accumulate the last result while shifting the pointers in two instruction times. That is plenty fast. I will be able to do dual channel modems for this card. Since the thing does not also have a UART, or SIO, we will have to the HDLC and UART functions on the chip when required. Other DSP developers have done this all on chip (Finland DSP development group on the Motorola DSP56001). We will be able to do a lot.

John should be more careful when he makes flat statements about commercially available products. If he were a 'real competitor' of Creative Labs, he could get into a bit of a hassle. I am following the philosophy of my dear friend, Phil Karn, in attributing to ignorance when possible, that which could be attributed to malice (in this case, competition). I told John in a reply to his mail that I doubted the accuracy of his statements on the Sound Blaster16 with ASP. I was correct. The Sound Blaster 16 with ASP is available from many places for under \$300. The developers kit is \$99, available only from Creative Labs. In addition to this, you must have a dsp assembler. The developer's kit provides COMPLETE tools for uploading and downloading programs to the ASP chip.

I will be writing programs for the ASP and giving them away on your favorite ftp sites and through the ARRL download request service. These programs will be the basis of articles for QEX describing the algorithms and the operation of the sound blaster card in amateur radio applications. Phil Karn has devised a new link layer for packet, with FEC, etc. and I will be providing modems that use the ASP. I believe I can provide what the latest hamblaster announcements state and more in short order after I get the assembler for the ASP. I will do this as quickly as possible. I am a bit miffed that I stopped developing the Windows and DOS front ends and display stuff for the SB16 ASP after John's note because I thought the SB16 was too limited. Now it is full steam ahead.

Bob

--

Robert W. McGwier	n4hy@ccr-p.ida.org	Interests: ham radio,
Center for Communications Research	scouts, astronomy, golf (o yea, & math!)	
Princeton, N.J. 08520	ASM Troop 5700, ACM Pack 53	Hightstown
(609)-279-6240(v) (609)-924-3061(f)	I used to be a Buffalo . . . NE III-120	

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Date: 14 Feb 94 13:26:45 GMT  
From: psinntp!psinntp!laidbak!tellab5!jwa@rutgers.rutgers.edu  
Subject: HAMBLASTER INCORRECT STATEMENTS  
To: ham-digital@ucsd.edu

In article <N4HY.94Feb9141054@harder.ccr-p.ida.org> n4hy@harder.ccr-p.ida.org (Bob McGwier) writes:

>

I didn't want to get into a rebutal but I was convinced to do so by others.

JWA= Jack Albert

RWM= Robert W. McGwier

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RWM

Howdy:

In a recent spate of messages, we have been told of the capabilities of the hamblaster. It sounds rudimentary so far but I am sure that over time the capabilities (new software development) will proceed and its capabilities will be enhanced and it will make a very interesting tool for amateur radio communications, experimentation, and learning DSP. There will be alternatives as you will now be told.

JWA

For future expansion, the Hamblaster has an expansion connector. Several add-ons will include, a better A/D-D/A, Packet switch, real time tuning scope display driver and a microprocessor.

RWM

In other messages, John Alberts has told us of the lack of capabilities of the Sound Blaster 16 with ASP. He is WRONG.

JWA

Not really, because I own one, I was refering to the Soundblaster Pro. Any referances to the ASP version was based on information from the "Ultimate Soundblaster Book" that I purchased from a local book store. I was unaware and the book didn't mention it's programming capabilities. I believe my actual words where "Im not shure but" .

RWM

I received my Sound Blaster developers kit via UPS yesterday at last. It is easy to see how John could have made the mistake he made. The manuals received in the kit describe two distinct pieces of processing hardware. One is called the DSP and the other is the ASP.

The DSP has all the limitations mentioned by John in his statements concerning the capabilities of the Sound Blaster card (or lack thereof). It is a proprietary gate array surrounding masks from other chip developers to do stuff like DMA blocks of samples in and out, to convert PCM to u-LAW, 2 or 4 bit ADPCM, CVSD, etc. It directs the flow of MIDI commands, etc. It is a pretty neat thing in and of itself but it is NOT what we want. We want a full blown DSP chip, with a modified Harvard architecture and at least 16 by 16 bit -> 32 multiply, accumulate, read new coefficient and data in one instruction time. THE ASP is a real DSP chip and has all this. It is 512 words of off chip program memory, 512 words of off chip data ram, 192 words of X RAM on chip, 128 words of Y ram on chip.

JWA

The Hamblaster comes with 32K of program/data memory. It will be expandable to 32k of program and 32k of data memory with a total of 64k words. More than you'll ever need!

Our packet modem software is 3K. It just won't fit in the Soundblaster ASP 16.

X ram is program and sample data, Y RAM would be used for filter coefficients. THIS IS A FULL BLOWN DSP CHIP. It does NOT have the limitations John has told us the hamblaster overcomes.

Indeed, on the A/D, D/A front, it is quite clear that the under \$300 SB16-ASP is quite a bit MORE CAPABLE than hamblaster.

JWA

New information places the Hamblaster at about \$275.00

RWM

It has two channels (16 bits each), D/A, and A/D. The sample rate is completely controllable by uploading a divisor to the control register. The lowest available rate is 5 KHz and the highest is 44.1 KHz. The processor runs at 12 MIPS so filters would

execute at around 25 MIPS. This is because it has the typical DSP feature of multiply two numbers, read the next two, and accumulate the last result while shifting the pointers in two instruction times.

JWA

That's great for HiFi work but for Ham use you only need an 8kHz sample rate and an 8 bit D/A-A/D. If you consider pipelining the C25 also about runs 25 MIPS.

RWM

That is plenty fast. I will be able to do dual channel modems for this card. Since the thing does not also have a UART, or SIO, we will have to the HDLC and UART functions on the chip when required. Other DSP developers have done this all on chip (Finland DSP development group on the Motorola DSP56001). We will be able to do a lot.

John should be more careful when he makes flat statements about commercially available products. If he were a 'real competitor' of Creative Labs, he could get into a bit of a hassle.

JWA

There's no way that a product made for Ham Radio will compete with a product that will sell in the millions. In the Ham market there just aren't enough sales to generate a reasonable profit! You'll never get rich selling to Hams.

RWM

I told John in a reply to his mail that I doubted the accuracy of his statements on the Sound Blaster16 with ASP. I was correct.

JWA

Not really. Because of the proprietary nature, I can't disclose the full picture. When it's released, A complete package update will be available.

RWM

The Sound Blaster 16 with ASP is available from many places for under \$300. The developers kit is \$99, available only from Creative Labs.

I think the Hamblaster's price will be competitive! They will offer help to third party programmers.

I will be writing programs for the ASP and giving them away on your favorite ftp sites and through the ARRL download request service. These programs will be the basis of articles for QEX describing the algorithms and the operation of the sound blaster card in amateur radio applications. Phil Karn has devised a new link layer for packet, with FEC, etc. and I will be providing modems that use the ASP. I believe I can provide what the latest hamblaster announcements state and more in short order after I get the assembler for the ASP. I will do this as quickly as possible. I am a bit miffed that I stopped developing the Windows and DOS front ends and display stuff for the SB16 ASP after John's note because I thought the SB16 was too limited. Now it is full steam ahead.

JWA

Good Luck!

Programs for the Hamblaster will also be available on public domain disk or BBS's.

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Jack Albert WA9FVP                      Fellow Radio Hacker  
    Tele (708) 378-6201  
Tellabs Operations, Inc.              FAX (708) 378-6721  
1000 Remington Blvd.                  jwa@tellabs.com  
Bolingbrook, IL 60440

"I'm a half breed"  
"I can only breed through on side of my nose!"

Eddie Kantor

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Date: 15 Feb 94 19:52:16 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Kaypro terminal emulator  
To: ham-digital@ucsd.edu

From: Steve, WB8IMY  
>Does anyone know of a source for terminal software for a vintage 1985  
>Kaypro 1 computer? (Trying to help a fellow who wants to put his  
>old Kaypro on packet.)



How about Kermit for (Z80) CP/M ?

You might want to check [kermit.columbia.edu](http://kermit.columbia.edu) or even better the cpm ftp archives such as [wuarchive.wustl.edu](http://wuarchive.wustl.edu) (forget the subdirectory)

Your best bet is to post on [comp.os.cpm](http://comp.os.cpm). There might even be a FAQ for that group.

alex  
[iskandar@u.washington.edu](mailto:iskandar@u.washington.edu)

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Date: Sat, 12 Feb 94 08:52:02 MST  
From: [gatech!howland.reston.ans.net!cs.utexas.edu!asuvax!ennews!stat!david@uunet.uu.net](mailto:gatech!howland.reston.ans.net!cs.utexas.edu!asuvax!ennews!stat!david@uunet.uu.net)  
Subject: Mocom 35 for 9600  
To: [ham-digital@ucsd.edu](mailto:ham-digital@ucsd.edu)

[jeff@ee.ryerson.ca](mailto:jeff@ee.ryerson.ca) (Donald Jeff Dionne) writes:

> I've obtained a Mocom 35 440 rig which we wish to use as a 9600  
> user port radio. I'm interested if anyone has has sucess with mods on this.  
> It came with documentation on how to perform a mod for 9600, but local users  
> who have tried to perform the mod on their Mocom 35s say they have had  
> little luck. Any info would be appreciated.

We have two of them running here in Phoenix. The mods were made by  
[kf7tp@kf7tp.stat.com](mailto:kf7tp@kf7tp.stat.com).

I have one in operation with a Kantronics DataEngine w/G3RUH modem for  
over a year on a 438 backbone channel here in Phoenix.

david

---  
Editor, HICNet Medical Newsletter  
Internet: [david@stat.com](mailto:david@stat.com) FAX: +1 (602) 451-1165  
Bitnet : [ATW1H@ASUACAD](mailto:ATW1H@ASUACAD)

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Date: Tue, 15 Feb 1994 20:38:53 GMT  
From: [library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!news.intercon.com!udel!news.sprintlink.net!direct!kg7bk@network.ucsd.edu](mailto:library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!news.intercon.com!udel!news.sprintlink.net!direct!kg7bk@network.ucsd.edu)  
Subject: My HAMBLASTER note  
To: [ham-digital@ucsd.edu](mailto:ham-digital@ucsd.edu)

Bob McGwier (n4hy@growler.ccr-p.ida.org) wrote:

: I will keep the news groups posted as to what becomes available when.  
: Robert W. McGwier

Bob, my message to you bounced. What I asked was who is the manufacturer and chip number for the ASP on the Soundblaster?

thanks and 73, Cecil, kg7bk@indirect.com

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Date: Mon, 14 Feb 1994 10:40:32 GMT  
From: swrinde!cs.utexas.edu!howland.reston.ans.net!pipex!uknet!reading!suma1!ssrhouns@network.ucsd.edu  
Subject: PktWin V2.0 Bug (Oops)  
To: ham-digital@ucsd.edu

I have had a couple of reports of a bug in PktWin V2.0, sorry.  
It seems that the connect dialogue box resets the port to COM1:. I shall issue V2.1 as soon as I can re-install BC++ V3.1 (it will be quicker than converting to V4.0). If there are any other problems/suggestions please, please, please, let me know and I will try to incorporate them into this interim release.

Thanks very much for all the feedback, the response has been great :)

73's de Paul

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Paul Hounslow	The smelling pistakes are all my own.
Packet: G4YFE@GB7BEQ	EMail: ssrhouns@reading.ac.uk
1990 16 valve K100LT	DoD #0573, Internet BMW Riders (President:)

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Date: 14 Feb 94 14:56:03 GMT  
From: psinntp!psinntp!barilvm!vms.huji.ac.il!wisipc.weizmann.ac.il!perlman114.weizmann.ac.il!cvtishbe@rutgers.rutgers.edu  
Subject: Pro- 2006 Modifications  
To: ham-digital@ucsd.edu

How can I restore the 800Mhz continuous coverage to my new RS pro - 2006 if at all possible ?

73 de 4x6yo

-----  
Date: 15 Feb 1994 06:48:14 GMT  
From: munnari.oz.au!ariel.ucs.unimelb.EDU.AU!werple.apana.org.au!  
zikzak.apana.org.au!harbinger.cc.monash.edu.au!yeshua.marcam.com!usc!  
cs.utexas.edu!uwm.edu!convex.csd.uwm.edu!retzer@network  
Subject: SB-Pro-16 and DTMF codes  
To: ham-digital@ucsd.edu

I recall reading about decoding DTMF codes using a sound blaster 16 pro board. Does anyone have any additional info on this?

Many Thanks,  
Joe Retzer  
N9QXL

-----  
Date: 13 Feb 94 12:05:00 -0500  
From: blkcat!1-109-239-0!Jack.Anderson@uunet.uu.net  
Subject: Yaesu Ft-470 Rx Range?  
To: ham-digital@ucsd.edu

K> I recently acquired a FT-470 Yaesu radio. I opened it up turned it  
K> on an pushed a few buttons and tunned it in to 162.40MHz to hear the  
K> weather radio station. I then set this freq as memory #1. After this  
K> turned it off and let the battery charge. After charging I decided to  
K> the memory and start fresh. Well, after doing this, for the life of m  
K> could not tune that thing above 148.00 MHz on the low band setting. I  
K> this is some kind of undocumented feature. Anybody have any ideas? th

Try this - with the radio OFF, hold down both arrow buttons and turn it back on, then see if you can RX out of band.

-----  
Date: 15 Feb 1994 14:35:24 GMT  
From: agate!howland.reston.ans.net!cs.utexas.edu!swrinde!hopper.acm.org!ACM.ORG!  
SMITHSON@network.ucsd.edu  
Subject: Yaesu FT-5100 / MFJ-1270B  
To: ham-digital@ucsd.edu

In article <1148@btg.UUCP>, rusty@btg.UUCP (Rusty Haddock) writes:  
>In article <2j8i6u\$5qo@hpcan240.mentorg.com> dave\_clemans@mentorg.com writes:  
> >plymale@myhost.subdomain.domain wrote:  
> >: I'm trying to interface a Yaesu FT-5100 to a MFJ-1270B TNC via  
> >: the 5100's DATA IN/OUT jack. I constructed a connector based on  
> >: the instructions in the 5100 manual. The problem is that the

> >: transmit audio level out of the TNC is way too low. Adjusting  
> >: trimpot R76 during the 1270B recalibration procedure does not help.  
> >: Any suggestions for increasing transmit audio level are appreciated.  
> >  
> >: Bill Plymale - KD4CIY  
> >  
> >What data speed are you trying to get?  
> >According to a Yaesu rep, for 2400 baud or less, you should not try  
> >to use the data jack on the back. You should connect to the microphone  
> >jack on the front. The data jack has been optimized for 9600 baud.  
> >  
> >Yes, I just got off the phone with Yaesu [Amateur] Tech Support and they  
> >indeed confirmed that 2400-baud and below goes through the microphone port.  
> >

I hope I'm not missing something here, but as I mailed to the original poster (postor??) I have been using 1200b through the data jack on the back of the 5100 with my 1278 for close to a year now. Constructing the cable with the instructions in the manual was straightforward, and I've had no problems save some deviation adjustments when I originally set it up.

The thing I don't understand about Yaesu's reply is, what does the data rate have to do with audio level and where it is fed??

73!

-Brian n8wrl  
smithson@acm.org

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End of Ham-Digital Digest V94 #39

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